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FLANGE PLATES FOR FLUID PORT INTERFACES

ABSTRACT OF THE DISCLOSURE

Flange plates control the flow of fluid between fluid handling devices. In one embodiment, a sealing plate includes an O-ring and a structural support ring disposed within the O-ring. The support ring prevents the O-ring from being dislodged due to fluid pressure in the line. The support ring may have chamfers which aid in centering the O-ring. The support ring may also have a plurality of orifices allowing fluid flow between the interior of the support ring and the O-ring. In another embodiment, a blanking plate includes a domed portion, oriented in a direction towards the fluid being contained. The domed portion imparts strength to the blanking plate, allowing the plate to be made of a thinner piece of material. In another embodiment, an orifice plate includes a domed portion as described above, with an orifice located at the center of the dome. The invention also provides sealing plates which provide structural support for slip-in fluid modules, and which also have central bores which transition from one diameter to another, allowing fluid components having ports of differing diameters to be connected together.